IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended)   A method of transmitting data using multi-carrier Code-Division Multiple Access (CDMA) for accessing a transmission system, the method comprising the acts of:

modulating the data to be transmitted using Orthogonal Frequency-Division Multiplexing (OFDM) for producing OFDM modulated data symbols; and

spreading the OFDM modulated data symbols with spreading codes including a set of predefined sequences that satisfy predetermined auto-correlation and/or cross-correlation criteria within a region around a central point of an Interference-Free Window (IFW), wherein a length of the IFW is greater than a channel delay spread of a transmission channel including a set of multi-paths with

associated time lengths, the ~~transmission channel having a~~ channel delay spread ~~defined as~~ being a time length corresponding to an estimate of a difference between the time lengths of at least two different multi-paths.

2.(Previously Presented) The method as claimed in claim 1, wherein the transmission system comprises a transmitter, a receiver and a transmission channel, for transmitting the data from the transmitter to the receiver via the transmission channel, the length of the Interference-Free Window (IFW) depending on the channel delay spread.

3.(Previously Presented) The method as claimed in claim 1, wherein the sequences are such that their off-peak partial autocorrelation and partial cross-correlation values are zero within the Interference-Free Window (IFW).

4.(Previously Presented) The method as claimed in claim 2, wherein the sequences are such that they comprise zero gaps.

5.(Currently Amended)   A transmitter for transmitting data

using multi-carrier Code-Division Multiple Access (CDMA) for

accessing a transmission system, the transmitter comprising:

a modulator for modulating the data to be transmitted using

Orthogonal Frequency-Division Multiplexing (OFDM) for producing

OFDM modulated data symbols; and

a mixer for spreading the OFDM modulated data symbols with

spreading codes including a set of predefined sequences, wherein

the sequences are predefined so that they satisfy predetermined

auto-correlation and/or cross-correlation criteria within a region

around a central point of an Interference-Free Window (IFW),

wherein a length of the IFW is greater than a channel delay spread

of a transmission channel including a set of multi-paths with

associated time lengths, the ~~transmission channel having a~~ channel

delay spread ~~defined as~~ being a time length corresponding to an

estimate of a difference between the time lengths of at least two

different multi-paths.

6.(Currently Amended)   A method of receiving multi-carrier

data sequences transmitted via a transmission system using multi-

carrier Code-Division Multiple Access (CDMA) for accessing the

transmission system, the data sequences being OFDM modulated before

being spread with a set of predefined sequences satisfying

predetermined auto-correlation and/or cross-correlation criteria

within a region around a central point of an Interference Free

Window (IFW), the method comprising a step of demodulating the

received multi-carrier data sequences with respect to a predefined

set of sub-carriers and with respect to the set of predefined data

sequences, wherein a length of the IFW is greater than a channel

delay spread of a transmission channel including a set of multi-

paths with associated time lengths, the ~~transmission channel having~~

~~a~~ channel delay spread ~~defined as~~ being a time length corresponding

to an estimate of a difference between the time lengths of at least

two different multi-paths.

7.(Currently Amended)   A receiver for receiving data sequences

transmitted via a transmission system using multi-carrier Code-

Division Multiple Access (CDMA) for accessing the transmission system, the data sequences being OFDM modulated before being spread with a set of predefined sequences satisfying predetermined auto-correlation and/or cross-correlation criteria within a region around a central point of an Interference-Free Window (IFW), the receiver comprising a set of rake combiners tuned to associated sub-carriers for demodulating the received data sequences, wherein a length of the IFW is greater than a channel delay spread of a transmission channel including a set of multi-paths with associated time lengths, the ~~transmission channel having a~~ channel delay spread ~~defined as~~ being a time length corresponding to an estimate of a difference between the time lengths of at least two different multi-paths.

8.(Previously Presented) A computer readable medium embodying a computer program product including a set of instructions, which when loaded in a transmitter, causes the transmitter to carry out the method as claimed in claim 1.

9.(Previously Presented) A computer readable medium embodying a computer program product including a set of instructions, which when loaded in a receiver, causes the receiver to carry out the method as claimed in claim 6.

10.(Currently Amended) A system comprising at least a transmitter and a receiver for transmitting data from the transmitter to the receiver using multi-carrier Code-Division Multiple Access (CDMA) for enabling the transmitter to access the transmission system, the data to be transmitted being modulated using Orthogonal Frequency-Division Multiplexing (OFDM) before being spread with a set of predefined sequences wherein the sequences are predefined so that they satisfy predetermined auto-correlation and/or cross-correlation criteria within a region around a central point of an Interference-Free Window (IFW), wherein a length of the IFW is greater than a channel delay spread of a transmission channel including a set of multi-paths with associated time lengths, the ~~transmission channel having a~~ channel delay spread ~~defined as~~ being a time length corresponding to an

estimate of a difference between the time lengths of at least two different multi-paths.

11.(Previously Presented) The method of claim 1, wherein the at least two different multi-paths include a longest path having a maximum length and a shortest path having a minimum length.

12.(Previously Presented) The transmitter of claim 5, wherein the at least two different multi-paths include a longest path having a maximum length and a shortest path having a minimum length.

13.(Previously Presented) The method of claim 6, wherein the at least two different multi-paths include a longest path having a maximum length and a shortest path having a minimum length.

14.(Previously Presented) The receiver of claim 7, wherein the at least two different multi-paths include a longest path having a maximum length and a shortest path having a minimum

length.

15.(Previously Presented)   The system of claim 10, wherein the at least two different multi-paths include a longest path having a maximum length and a shortest path having a minimum length.